Applicant: Christopher Lynn Tycho Brown

Serial No. : 10/713,853 Filed : November 14, 2003

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Attorney's Docket No.: 16666-002001

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

 (Currently Amended) An article comprising a machine-readable medium embodying instructions that when performed by one or more machines result in operations comprising:

determining whether a storage device, in a data processing system running an operating system, includes a protested area storage area protection, the operating system including a hardware abstraction layer;

removing the storage area protection of the storage device from within the running operating system and without rebooting the data processing system, thereby creating a formerly protected storage area; and

providing information derived from the formerly protected storage area to a data processing system detection tool;

wherein said determining and said removing occur in a kernel mode of the data processing system.

- (Original) The article of claim 1, wherein the operating system further includes a graphical user interface (GUI), virtual memory management and multitasking.
- (Currently Amended) The article of claim 1, wherein determining whether the storage device includes the protected area storage area protection comprises;

checking whether the storage device supports a protected area specification; and identifying a protected storage capacity and an unprotected storage capacity of the storage device.

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4. (Original) The article of claim 1, wherein removing the storage area protection comprises volatilely resetting a storage address value.

- 5. (Original) The article of claim 4, wherein resetting a storage address value comprises calling a MAX ADDRESS command.
 - 6. (Cancelled)
- 7. (Original) The article of claim 4, wherein the storage area protection of the storage device is restored by the data processing system upon system reboot, leaving the storage device unaltered.
 - 8. (Original) The article of claim 1, wherein the operations further comprise: scanning the formerly protected storage area; and identifying file system information in the formerly protected storage area.
- 9. (Original) The article of claim 1, wherein providing the information derived from the formerly protected storage area comprises sending the information over a transport medium to the data processing system detection tool.
- 10. (Original) The article of claim 9, wherein the operations further comprise reconstructing a file system of the formerly protected storage area to derive the information.
- 11. (Original) The article of claim 9, wherein providing the information derived from the formerly protected storage area further comprises selecting the transport medium from a group including a peripheral device interface medium and a network communications medium.

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12. (Currently Amended) An article comprising a machine-readable medium embodying instructions that when performed by one or more machines result in operations comprising:

determining whether a storage device, in a data processing system running an operating system, includes a protected area storage area protection, the operating system including a hardware abstraction layer;

removing the storage area protection of the storage device from within the running operating system and without rehooting the data processing system, thereby creating a formerly protected storage area; and

providing information derived from the formerly protected storage area to a data processing system detection tool;

wherein providing the information derived from the formerly protected storage area comprises sending the information over a transport medium to the data processing system detection tool:

wherein providing the information derived from the formerly protected storage area further comprises selecting the transport medium from a group including a peripheral device interface medium and a network communications medium; and

wherein sending the information over the transport medium comprises sending the information in packets having a packet structure useable over both the peripheral device interface medium and the network communications medium.

- 13. (Original) The article of claim 12, wherein the packet structure is usuable over a Universal Serial Bus (USB) and over an Internet Protocol (IP) network.
- 14. (Original) The article of claim 12, wherein the packet structure includes a packet identifier field, and the operations further comprise specifying a detection-tool packet identifier for each packet,

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one-to-one connection.

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15. (Original) The article of claim 12, wherein the packet structure allows for only a

 (Original) The article of claim 12, wherein the packet structure specifies small packets to reduce latency.

17. (Currently Amended) A method comprising:

loading a kernel-mode software module in a computing system running an operating system; and

without rebooting the computing system, using the kernel-mode software module to perform operations from within the operating system, the operations comprising

determining whether a storage device in the computing system includes a protected area storage area protection, and

reversibly removing the storage area protection, thereby creating a formerly protected storage area.

- 18. (Original) The method of claim 17, wherein loading the kernel-mode software module comprises communicatively coupling a machine-readable medium with the computing system, a detection agent being tangibly embodied in the machine-readable medium to run and dynamically load the kernel-mode software module without altering the storage device.
- (Original) The method of claim 18, wherein the machine-readable medium comprises an optical disk.
 - 20. (Original) The method of claim 17, further comprising: scanning the formerly protected storage area; and identifying file system information in the formerly protected storage area.

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- 21. (Original) The method of claim 17, further comprising sending information derived from the formerly protected storage area over a selected transport medium to a data processing system detection tool.
- 22. (Original) The method of claim 21, wherein sending the information over the selected transport medium comprises sending the information in packets having a packet structure useable over both a peripheral device interface medium and a network communications medium.
- 23. (Original) The method of claim 22, wherein the packet structure includes a packet identifier field used by the detection tool, and the packet structure specifies small packets to reduce latency.
 - 24. (Original) A system comprising:
 - a data processing system detection tool; and
- a kernel-mode software module operable to provide the detection tool with access to a protected area of a storage device in a data processing system when the kernel-mode software module is loaded into the data processing system.
- 25. (Original) The system of claim 24, wherein the detection tool is operable from within the data processing system to access the storage device over a bus, the system further comprising a hardware write blocker operable to allow the kernel-mode software module access to a firmware command.
- 26. (Original) The system of claim 24, wherein the detection tool is operable as a stand alone application and as a client application.

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- 27. (Original) The system of claim 24, further comprising a detection agent operable to send information to the detection tool, the detection agent being operable to load the kernel-mode software module in the data processing system and communicate with the loaded kernel-mode software module and with the detection tool.
- 28. (Original) The system of claim 27, wherein the detection agent is further operable to reconstruct a file system of the protected storage area and send the reconstructed file system information to the detection tool.
- 29. (Original) The system of claim 27, wherein the detection agent is further operable to select a transport medium from a group including a peripheral device interface medium and a network communications medium, and the detection agent communicates with the detection tool using a common a packet structure useable over both the peripheral device interface medium and the network communications medium.
- 30. (Original) The system of claim 29, wherein the packet structure includes a packet identifier field used by the detection tool, and the packet structure specifics small packets to reduce latency.
 - 31. (Original) The system of claim 24, further comprising a software write blocker.
- (Original) The system of claim 24, wherein the detection tool comprises a computer forensics tool.
- (Original) The system of claim 24, wherein the kernel-mode software module comprises a device driver.
- 34. (Original) The system of claim 33, wherein the device driver comprises a Windows Driver Model (WDM) driver.

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(Original) The system of claim 33, wherein the storage device comprises an ATA 35. hard disk.

36. (Currently Amended) A system comprising-

means for directly accessing a protected area of a storage device in a data processing system live from a high level operating system without a reboot; and

means for delivering information derived from the protected storage area to a data processing system detection tool;

wherein the means for delivering comprises multi-transport means for delivering the information, including means for selectively communicating over a network communications medium or a peripheral device interface medium to support remote imaging and analysis of the directly accessed protected area.

37. (Cancelled)